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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,789	02/27/2004	Richard B. Fox	H0002691--1065	6154
128	7590	12/16/2005		EXAMINER
				GARBER, CHARLES D
			ART UNIT	PAPER NUMBER
				2856

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/788,789	FOX ET AL.	
	Examiner	Art Unit	
	Charles D. Garber	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 November 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17, 19, 22-25 is/are pending in the application.
 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 9-17, 19 and 22-25 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/26/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

In accordance with 37 CFR 1.105 Examiner requires the submission, from individuals identified under § 1.56(c), or any assignee, such information as may be reasonably necessary to properly examine or treat the matter. This includes: A copy of any non-patent literature, published application, or patent (U.S. or foreign) that was used in the invention process, such as by designing around or providing a solution to accomplish an invention result – particularly related to “commercially available or known sampling canisters used to collect or detect airborne contaminants” discussed in Applicant’s disclosure.

Response to Arguments

Applicant's arguments filed 11/28/2005 have been fully considered but they are not persuasive.

Applicant argues the Danylewych-May teaches away from combination with the Holland reference because Danylewych-May recites “an umbilical hose connection from the sampling point to the analyzer...makes use more difficult, and also is subject to loss of both particle and vapour by adhesion to the wall of the hose”.

The Danylewych-May was referring to the prior art in US Patent 5,753,832 to Bromberg et al. The device in the Bromberg Patent was a much larger sampler than the Danylewych-May device that is hand-held. The Bromberg patent does not even include an analyzer but shows tubes running off in the direction of one. The Danylewych-May device on the other hand includes an analyzer quite close to the source of possible contamination. The Danylewych-May device is similar in size to the

Holland device and this Examiner does not consider the Holland device would be subject to the same problems of contaminant absorption upstream of the analyzer as in Bromberg. Indeed, Danylewych-May in an embodiment depicted in figure 5 shows the use of an umbilical to draw samples directly through a swab upstream of the canister-like portion.

Applicant also argues none of the applied references teaches the system "for sampling air that is disposed in a substantially enclosed space and that is received from a high volume air source having a vacuum source coupled to tubing and configured to draw the air from the high volume air source through the system."

It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham 2 USPQ2d 1647 1987*).

Examiner acknowledges Applicant has chosen not to challenge Examiner's holding of Official Notice of what is considered to be widely known in the art regarding the use of aluminum to fabricate rigid tubular structures (with respect to claims 13 and 14) and regarding making fluid connections airtight (with respect to claim 12). This is considered to be an implicit agreement with Examiner's position on these teachings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holland (US Patent 5,596,155) in view of Danylewych-May et al. (US Patent 6,446,514) and Van Netten (US Patent Application 2004/0045376).

Regarding claims 9, 10, 11, Holland discloses a gas sampling probe including a cylindrical rigid portion 15 which may be considered to be a collar; and flexibly constructed portion 14 which may be considered to be a hose. The portion 14 is shown in figure 1 with two ends. The inlet end 12 is shown in the figure positioned at a high volume source. Sampling device 10 is shown in the figure to be affixed to the rigid portion 15 (collar) however the detailed function of the device 10 is not described in the Holland nor is there any explanation of how fluid sample is moved into it. Applicant provides a special definition explaining the **canister** “represents any of the commercially available or known **sampling canisters used to collect or detect airborne contaminants**... [C]anister ... may contain reactive or adsorbent material. When contaminated air is passed through canister ... **airborne contaminants adhere to or otherwise react with the contents of canister**”.

Danylewych-May discloses a combined particle/vapor sampler teaching a collar-like inlet 42 with a main working portion 48 affixed to it. The main working portion 48 has a "suitable absorbent material" "so as to be capable of absorbing vapours or a substance of interest from air flow through" it. The portion 48 is connected also to a pump 50 by tubular body 46 to draw air through it (column 5 line 50 to column 6 line 9). The portion 48 is later removed and transferred to an analyzer for analysis (column 6 lines 35-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the sampling device to comprise a canister with suitable absorbent material in order to absorb vapours or a substance of interest. It would have also been obvious to one having ordinary skill in the art at the time the invention was made to connect the canister by tubing to vacuum pump in order to concentrate vapours from a source of interest thereby increasing vapour collection.

Though the reference do not expressly teach a device "for sampling air that is disposed in a substantially enclosed space and that is received from a high volume air source having a vacuum source coupled to tubing and configured to draw the air from the high volume air source through the system, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

Examiner considers the apparatus of Holland is capable of being used in the manner.

As for claim 12, while the references do not expressly disclose the tube and hose connections are airtight Examiner considers making fluid connections airtight is widely known in the gas fluid sampling and analysis art in order to ensure no leakage and uncontrolled dilution of the sample that would interfere with the analysis results.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide airtight or sealed connections between the various connections in order to prevent uncontrolled dilution of the sample which could corrupt the analysis results.

As for claims 13 and 14, while the references do not expressly disclose the collar made from aluminum Examiner takes official notice that it is well known in the art to fabricate rigid tubular structures from aluminum. Aluminum is fairly strong, lightweight, easy to machine and comes prefabricated in tubular sections in a variety of sizes.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the collar from aluminum because is fairly strong, lightweight, easy to machine and comes prefabricated in tubular sections in a variety of sizes which will shorten fabrication time.

Claims 16, 17, 18, 20, 21, 22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holland (US Patent 5,596,155) as modified by Danylewych-May et al. (US Patent 6,446,514) and applied above and further in view of Van Netten (US Patent Application 2004/0045376).

Regarding claims 16, 17, 18, 20, 21, the references as discussed above disclose or suggest all the limitations of the invention except for placing the device by a high volume source which is defined in Applicant's specification to be an engine exhaust.

Van Netten teaches air in aircraft pressurized by engine or APU bleed may become contaminated by pyrolyzed or volatized oil or hydraulic fluid (paragraph 0002 and 0003). Van Netten also teaches it is important to sample the air in jet aircraft for such contaminants to avoid near fatal accidents resulting caused by the contaminants (paragraphs 0004 and 0005).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to sample air from jet engine or APU bleed systems to detect contaminants which have the potential of being fatal.

As for claims 22 and 25, while the references do not expressly disclose the tube and hose connections are airtight Examiner considers making fluid connections airtight is widely known in the gas fluid sampling and analysis art in order to ensure no leakage and uncontrolled dilution of the sample that would interfere with the analysis results.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide airtight or sealed connections between the various connections in order to prevent uncontrolled dilution of the sample which could corrupt the analysis results.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holland (US Patent 5,596,155) as modified by Danylewych-May et al. (US Patent 6,446,514) and Van Netten (US Patent Application 2004/0045376) and applied to claim 16 above

and further in view of Lewis et al. (US Patent 5,184,501) and Lewis (US Patent 4,823,591).

As for claim 19, Applicant defines describes a pressure reduction vessel as a "hollow vessel" "with apertures or ports providing fluid communication between the exterior and the interior of said vessel". Such a vessel upstream from a vacuum source will function as a well known fresh air diluter.

Lewis '501 teaches a mixing duct 15 which is shown in the figures 1-5, 9 to be a hollow vessel with an aperture at 16 providing fluid communication between the exterior and interior of the duct. The effect of the duct will be to reduce pressure from the vacuum source (at 20 and 34) and temperature of the exhaust source. Lewis '591 explains "The early admission of dry dilution air minimizes condensation and eliminates the need for heated sample lines."

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a hollow vessel with apertures or ports providing fluid communication between the exterior and the interior of said vessel in order to minimize condensation and eliminate the need for heated sample lines.

Claims 15, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holland (US Patent 5,596,155) as modified by Danylewych-May et al. (US Patent 6,446,514) and Van Netten (US Patent Application 2004/0045376) and applied to claim 16 above and further in view of Lewis et al. (US Patent 5,184,501).

Regarding claim 15, the references lack a sample port disposed on the collar.

Lewis teaches sample line 33 disposed in cylindrical fluid path 22 for drawing "a continuously proportional sample of volume ...collected and stored for subsequent analysis of constituents such as hydrocarbons, carbon monoxide and Nox."

It would have been obvious to one having ordinary skill in the art at the time the invention was made to draw sample from a port disposed on the collar in order to collect and store a proportional sample of volume for subsequent analysis of gas constituents.

As for claims 23 and 24, the references lack measuring temperature and pressure.

Lewis teaches "means for measuring the pressure and temperature of said exhaust" (claim 20), in order to control "constant mass flow rate at the measured upstream temperature and pressure conditions".

It would have been obvious to one having ordinary skill in the art at the time the invention was made to measure temperature and pressure in order to control the mass flow rate and thereby extract a more precisely proportional and therefor representative sample from the gas source.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Garber whose telephone number is (571) 272-2194. The examiner can normally be reached on 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles D. Garber
Primary Examiner
Art Unit 2856

cdg